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Sub For, PTO-1449

Docket Number
112766.199Application Number
10/029,221INFORMATION DISCLOSURE
IN AN APPLICATION

(Use several sheets if necessary)

Applicant
Short et al.Filing Date
December 21, 2001Group Art Unit
2662

Sheet 1 OF 6

U.S. Patent Documents

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
hsp	6,361,974	03/26/02	Short et al.			
	6,358,709	03/19/02	Short et al.			
	6,352,842	03/05/02	Short et al.			
	6,335,179	01/01/02	Short			
	6,238,884	05/29/01	Short et al.			
	6,171,820	01/09/01	Short			
	6,057,103	05/02/00	Short			
	6,054,267	04/25/00	Short			
	6,004,788	12/21/99	Short			
	5,976,862	11/02/99	Kauffman et al.			
	5,965,408	10/12/99	Short			
	5,945,329	08/31/99	Breddam et al.			
	5,932,419	08/03/99	Bauer et al.			
	5,885,827	03/23/99	Wabl et al.			
	5,885,577	03/32/9	Alvarez			
	5,866,363	02/02/99	Pieczenik			
	5,837,458	11/17/98	Minshull et al.			
	5,830,996	11/03/98	Short			
	5,824,514	10/20/98	Kauffman et al.			
	5,824,469	10/20/98	Horwitz et al			
	5,817,483	10/06/98	Kaufmann et al.			
	5,814,476	09/29/98	Kaufmann et al.			
	5,811,238	09/22/98	Stemmer et al.			
	5,830,721	11/03/98	Stemmer et al.			
	5,798,208	08/25/98	Crea			
	5,789,166	08/04/98	Bauer et al.			
	5,763,192	06/09/98	Kauffman et al.			
	5,759,817	06/02/98	Barbas			
	5,723,323	03/03/98	Kauffman et al.			
	5,658,727	08/19/97	Barbas et al.			

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h	5,645,988	07/08/97	Vande Woude et al.			
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	5,512,463	04/30/96	Stemmer			
	5,389,537	02/14/95	Raines et al.			
	5,354,656	10/11/94	Sorge et al.			
	5,333,675	08/02/94	Mullis et al.			
	5,284,485	10/20/98	Thompson et al.			
	5,234,824	08/10/93	Mullis			
	5,223,409	06/29/93	Ladner et al.			
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	5,198,346	03/30/93	Ladner et al.			
	5,187,083	02/16/93	Mullis			
	5,176,995	01/05/93	Sninsky et al.			
	5,096,815	03/17/92	Ladner et al.			
	4,965,188	10/23/90	Mullis et al.			
	4,959,312	08/25/90	Sirotkin			
	4,800,159	01/24/89	Mullis et al.			
	4,683,202	07/28/87	Mullis			

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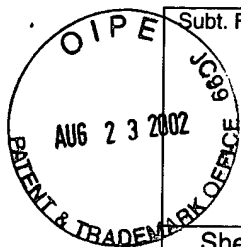
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Foreign Patent Documents							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
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h	WO 99/36553	7/22/99	PCT				
	WO 98/58080	12/23/98	PCT				
	WO 98/49286	11/05/98	PCT				
	WO 98/48024	10/29/98	PCT				
	WO 98/45331	10/15/98	PCT				
	WO 98/42832	10/01/98	PCT				
	WO 98/38297	9/3/98	PCT				
	WO 98/32845	7/30/98	PCT				

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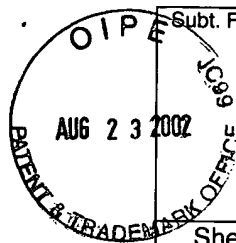
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		Filing Date December 21, 2001	Group Art Unit 2662
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Foreign Patent Documents							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
ms	WO 98/27230	06/25/98	PCT				
	WO 98/13487	04/02/98	PCT				
	WO 98/01581	01/15/98	PCT				
	WO 97/35957	10/02/97	PCT				
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	WO 97/20078	06/05/97	PCT				
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	WO 96/09411	03/28/96	PCT				
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	WO 00/52153	09/08/00	PCT				
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✓	EP 0 285 123	10/05/88	Europe				
	0 316 018 A2	5/17/89	Europe				

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	AB	Burks et al., "In vitro scanning saturation mutagenesis of an antibody binding pocket," <i>Proc Natl Acad Sci USA</i> 94(2): 412-417 (1997 Jan 21)
✓	AC	Chen and Struhl, "Saturation mutagenesis of a yeast <i>his3</i> "TATA element": genetic evidence for a specific TATA-binding protein," <i>Proc Natl Acad Sci USA</i> 85(8): 2691-2695 (Apr 1988)

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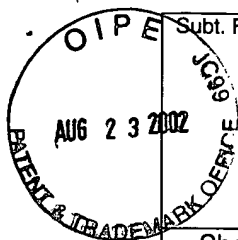
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AM	Horwitz and DiMaio, "Saturation mutagenesis using mixed oligonucleotides and M13 templates containing uracil," <i>Methods Enzymol</i> 185: 599-611 (1990)
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B	K. Sirotkin, "Advantages to mutagenesis techniques generated populations containing the complete spectrum, of single codon changes," <i>J Theor Biol</i> 123(3): 261-279 (1986 Dec 7)

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Sheet

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6

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Group Art Unit

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Sheet	6	OF	6				

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FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Docket No. DIVER1460-14	Serial No.: 09/535,754
	Applicant(s): Short et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date: March 27, 2000	Group Art Unit: 1643

J1050 U.S. PTO
10/029221
 12/21/01

U.S. PATENT DOCUMENTS

EXAM. INITIALS		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
[Signature]	AA	6,057,103	05/02/00	Short			
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	AC	6,004,788	12/21/99	Short			
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	AG	5,939,250	08/17/99	Short			
	AH	5,932,419	08/03/99	Bauer et al.			
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	AN	5,817,483	10/06/98	Kauffman et al.			
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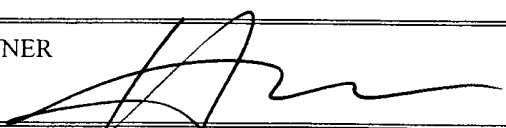
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EXAM. INITIALS		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)
WJ	BI	WO 99/36553	07/22/99	PCT			
	BJ	WO 98/49286	11/05/98	PCT			
	BK	WO 98/48024	10/29/98	PCT			
	BL	WO 98/45331	10/15/98	PCT			
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	BN	WO 97/20950	06/12/97	PCT			
	BO	WO 96/41865	12/27/96	PCT			
	BP	WO 96/09411	03/28/96	PCT			
	BQ	WO 96/06188	02/29/96	PCT			
	BR	WO 95/22625	08/24/95	PCT			
	BS	WO 95/20039	07/27/95	PCT			
J	BT	WO 91/16427	10/31/91	PCT			
	BU	WO 90/02809	03/22/90	PCT			


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h	BV	Arkin and Youvan, "Optimizing nucleotide mixtures to encode specific subsets of amino acids for semi-random mutagenesis," <i>Bio/technology (NY)</i> 10(3) :297-300 (Mar 1992)
	BW	Burks et al., "In vitro scanning saturation mutagenesis of an antibody binding pocket," <i>Proc Natl Acad Sci USA</i> 94(2) :412-417 (1997 Jan 21)
	BX	Cadwell and Joyce, "Randomization of Genes by PCR Mutagenesis," <i>PCR Methods and Applications</i> , 2 :28-33 (1992)
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	CC	Cunniff and Morgan, "Analysis of heat shock element recognition by saturation mutagenesis of the human <i>HSP70.1</i> gene promoter," <i>J Biol Chem</i> 268(11) :8317-8324 (1993 Apr 15)
	CD	Cwirla et al., "Peptides on phage: a vast library of peptides for identifying ligands," <i>Proc Natl Acad Sci USA</i> 87(16) :6378-6382 (Aug 1990)
	CE	Dennis and Lazarus, "Kunitz domain inhibitors of tissue factor-factor VIIa. I. Potent inhibitors selected from libraries by phage display," <i>J Biol Chem</i> 269(35) :22129-22136 (1994 Sep 2)
d	CF	Derbyshire et al., "A simple and efficient procedure for saturation mutagenesis using mixed oligodeoxynucleotides," <i>Gene</i> 46(2-3) :145-152 (1986)

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FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Docket No. DIVER1460-14	Serial No.: 09/535,754
	Applicant(s): Short et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date: March 27, 2000	Group Art Unit: 1643

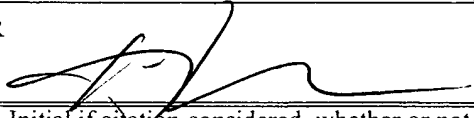
CG	Goff et al., "Efficient saturation mutagenesis of a pentapeptide coding sequence using mixed oligonucleotides," <i>DNA</i> 6(4) :381-388 (Aug 1987)
CH	Hermes et al., "Searching sequence space by definably random mutagenesis: Improving the catalytic potency of an enzyme," <i>Proc. Natl. Acad. Sci. USA</i> , 87 :696-700 (January 1990)
CI	Hill and Struhl, "Mutagenesis with degenerate oligonucleotides: an efficient method for saturating a defined DNA region with base pair substitutions," <i>Methods Enzymol</i> 155 :558-568 (1987)
CJ	Horwitz and DiMaio, "Saturation mutagenesis using mixed oligonucleotides and M13 templates containing uracil," <i>Methods Enzymol</i> 185 :599-611 (1990)
CK	Ihara et al., "Requirement of the Pro-Cys-His-Arg sequence for O ⁶ -methylguanine-DNA methyltransferase activity revealed by saturation mutagenesis with negative and positive screening," <i>Mol Gen Genet</i> 243(4) :379-389 (1994 May 25)
CL	Krishnan et al., "Direct and crossover PCR amplification to facilitate Tn5 ^{supF} -based sequencing of λ phage clones," <i>Nucleic Acids Research</i> , 19(22) :6177-6182 (1991)
CM	J.W. Little, "Saturation mutagenesis of specific codons: elimination of molecules with stop codons from mixed pools of DNA," <i>Gene</i> 88(1) :113-115 (1990 Mar 30)
CN	Marks et al., "By-passing Immunization: Building High Affinity Human Antibodies by Chain Shuffling," <i>Biotechnology</i> 10 :779-783 (July 1992)
CO	Meyerhans et al., "DNA recombination during PCR," <i>Nucleic Acids Research</i> , 18(7) :1687-1691 (1990)
CP	Moore et al., "Strategies for the <i>in vitro</i> Evolution of Protein Function: Enzyme Evolution by Random Recombination of Improved Sequences," <i>J. Mol. Biol.</i> 272 :336-347 (1997)
CQ	Morris and McIvor, "Saturation mutagenesis at dihydrofolate reductase codons 22 and 31. A variety of amino acid substitutions conferring methotrexate resistance," <i>Biochem Pharmacol</i> 47(7) :1207-1220 (1994 Mar 29)

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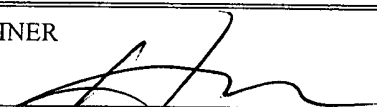
	CR	Olesen and Kielland-Brandt, "Altering substrate preference of carboxypeptidase Y by a novel strategy of mutagenesis eliminating wild type background," <i>Protein Eng</i> 6(4) :409-415 (Jun 1993)
	CS	Olins et al., "Saturation mutagenesis of human interleukin-3," <i>J Biol Chem</i> 270(40) :23754-23760 (1995 Oct 6)
	CT	Oliphant and Struhl, "An efficient method for generating proteins with altered enzymatic properties: application to beta-lactamase," <i>Proc Natl Acad Sci USA</i> 86(23) :9094-9098 (Dec 1989)
	CU	Oliphant et al., "Cloning of random-sequence oligodeoxynucleotides," <i>Gene</i> 44(2-3) :177-183 (1986)
	CV	Osuna et al., "Combinatorial mutagenesis of three major groove-contacting residues of <i>EcoRI</i> : single and double amino acid replacements retaining methyltransferase-sensitive activities," 106(1) :7-12 (1991 Sep 30)
	CW	Patten et al., "Applications of DNA shuffling to pharmaceuticals and vaccines," <i>Current Opinion in Biotechnology</i> , 8(6) :724-733 (1997)
	CX	Reidhaar-Olson and Sauer, "Combinatorial Cassette Mutagenesis as a Probe of the Information Content of Protein Sequences," <i>Science</i> , 241 :53-57 (1 July 1988)
	CY	Reidhaar-Olson et al., "Random mutagenesis of protein sequences using oligonucleotide cassettes," <i>Methods Enzymol</i> 208 :564-586 (1991)
	CZ	Roberts et al., "Directed evolution of a protein: selection of potent neutrophil elastase inhibitors displayed on M13 fusion phage," <i>Proc Natl Acad Sci USA</i> 89(6) :2429-2433 (1992 Mar 15)
	DA	Sherman et al., "Saturation mutagenesis of the plasminogen activator inhibitor-1 reactive center," <i>J Biol Chem</i> 267(11) :7588-7595 (1992 Apr 15)
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	DC	K. Sirotkin, "A computer program to display codon changes caused by mutagenesis," <i>Comput Appl Biosci</i> 4(2) :243-247 (Apr 1988)

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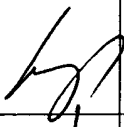
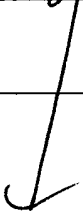

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hp	DD	K. Sirotkin, "Advantages to mutagenesis techniques generating populations containing the complete spectrum of single codon changes," <i>J Theor Biol</i> 123 (3):261-279 (1986 Dec 7)
1	DE	G. P. Smith, "The progeny of sexual PCR," <i>Nature</i> , 370 :324-325 (4 August 1994)
	DF	Soteropoulos and Perlin, "Genetic probing of the stalk segments associated with M2 and M3 of the plasma membrane H ⁺ -ATPase from <i>Saccharomyces cerevisiae</i> ," <i>J Biol Chem</i> 273 (41):26426-26431 (1998 Oct 9)
	DG	Soteropoulos et al., "Molecular genetic probing of energy coupling by the yeast plasma membrane proton pump," <i>Acta Physiol Scand</i> 643 :115-122 (Aug 1998)
	DH	W. Stemmer, "DNA shuffling by random fragmentation and reassembly: <i>In vitro</i> recombination for molecular evolution," <i>Proc. Natl. Acad. Sci. USA</i> , 91 :10747-10751 (October 1994)
	DI	W. Stemmer, "Rapid evolution of a protein <i>in vitro</i> by DNA shuffling," <i>Nature</i> , 370 :389-391 (4 August 1994)
	DJ	Stemmer et al., "Selection of an Active Single Chain Fv Antibody from a Protein Linker Library Prepared by Enzymatic Inverse PCR," <i>BioTechniques</i> , 14 (2):256-265 (1993)
	DK	Tsiang et al., "Protein engineering tyhrombin for optimal specificity and potency of anticoagulant activity <i>in vivo</i> ," <i>Biochemistry</i> 35 (51):16449-16457 (1996 Dec 24)
	DL	Warren et al., "A rapid screen of active site mutants in glycinamide ribonucleotide transformylase," <i>Biochemistry</i> 35 (27):8855-8862 (1996 Jul 9)
	DM	Weiner et al., "A method for the site-directed mono- and multi-mutagenesis of double-stranded DNA," <i>Gene</i> 126 (1):35-41 (1993 Apr 15)
	DN	Wells et al., "Cassette mutagenesis: an efficient method for generation of multiple mutations at defined sites," <i>Gene</i> 34 (2-3):315-323 (1985)
	DO	White et al., "Improved thermostability of the North American firefly luciferase: saturation mutagenesis at position 354," <i>Biochem J</i> 319 (Pt 2):343-350 (1996 Oct 15)
a	DP	Yelton et al., "Affinity maturation of the BR96 anti-carcinoma antibody by codon-based mutagenesis," <i>J Immunol</i> 155 (4):1994-2004 (1995 Aug 15)

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	DQ	Zhao and Arnold, "Functional and nonfunctional mutations distinguished by random recombination of homologous genes," <i>Proc. Natl. Acad. Sci. USA</i> , 94 :7997-8000 (July 1997)
	DR	Zhao and Arnold, "Optimization of DNA shuffling for high fidelity recombination," <i>Nucleic Acids Research</i> , 25(6) :1307-1308 (1997)
	DS	Zilliacus et al., "Evolution of distinct DNA-binding specificities within the nuclear receptor family of transcription factors," <i>Proc Natl Acad Sci USA</i> 91(10) :4175-4179 (1994 May 10)

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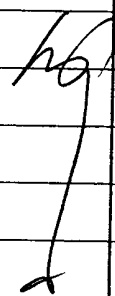
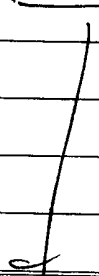
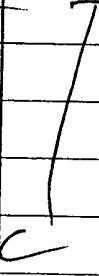

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	Applicants: Jay M. Short	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date: March 27, 2000	Group Art Unit: 1648

U.S. PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS

EXAM. INITIALS		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)
	A	WO 91/12341	8/22/91	PCT			
	B	WO 97/20078	6/5/97	PCT			
	C	WO 98/38297	9/3/98	PCT			
	D	WO 98/58080	12/23/98	PCT			
	E	0 316 018 A2	5/17/89	EPO			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)



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